

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Please cancel claims 37-47, without prejudice.

Please add new claims 52-55.

Please amend claims 1, 30, 36, 48 and 51 as indicated below (material to be inserted is in **bold and underline**, material to be deleted is in ~~strikeout~~ or (if the deletion is of five or fewer consecutive characters or would be difficult to see) in double brackets [[]]).

Listing of Claims:

1. (Currently Amended) A urine detection network, comprising:

a first detector configured to service a first region of a urine collection article;

[[and]]

at least a second detector ~~operatively coupled to the first detector and~~ configured to service a second region of the urine collection article; and

a conductive element that electrically couples the first detector to the second detector;

wherein the first detector and the second detector are collectively configured to indicate a fluid distribution of the urine collection article.

2. (Original) The urine detection network of claim 1, wherein the urine detection network has a net capacitance derived from at least a first capacitance of the first detector and a second capacitance of the second detector, and wherein the net

capacitance of the urine detection network indicates fluid distribution of the urine collection article.

3. (Original) The urine detection network of claim 2, wherein the first capacitance ranges between a predetermined minimum and a predetermined maximum.

4. (Original) The urine detection network of claim 2, wherein the first capacitance ranges between a predetermined minimum and a value outside of a predetermined range.

5. (Original) The urine detection network of claim 2, wherein the first capacitance ranges between a predetermined maximum and a value outside of a predetermined range.

6. (Original) The urine detection network of claim 1, wherein the urine detection network has a net inductance derived from at least a first inductance of the first detector and a second inductance of the second detector, and wherein the net inductance of the urine detection network indicates fluid distribution of the urine collection article.

7. (Original) The urine detection network of claim 6, wherein the first detector includes a coil shaped conducive element.

8. (Original) The urine detection network of claim 1, wherein a characteristic of the first detector measurably changes to a first value in response to a first threshold of urine wetting the first region of the urine collection article, and wherein a characteristic of the second detector measurably changes to a second value in

response to a second threshold of urine wetting the second region of the urine collection article.

9. (Original) The urine detection network of claim 8, wherein the first value is different than the second value.

10. (Original) The urine detection network of claim 9, wherein the first value is a first capacitance and the second value is a second capacitance.

11. (Original) The urine detection network of claim 8, wherein the first threshold and the second threshold are substantially equal.

12. (Original) The urine detection network of claim 8, wherein the first threshold is different than the second threshold.

13. (Original) The urine detection network of claim 8, wherein the first threshold is a nominal amount of urine.

14. (Original) The urine detection network of claim 8, wherein the first threshold is more than a nominal amount of urine.

15. (Original) The urine detection network of claim 8, wherein the characteristic of the first detector includes a capacitance of the first detector, and wherein the characteristic of the second detector includes a capacitance of the second detector.

16. (Original) The urine detection network of claim 15, wherein a dielectric property of the first detector measurably changes in response to a first threshold of urine wetting the first region of the urine collection article, and wherein a dielectric property of the second detector measurably changes in response to a second threshold of urine wetting the second region of the urine collection article.

17. (Original) The urine detection network of claim 1, wherein the first detector includes a sensitizer.

18. (Original) The urine detection network of claim 17, wherein the sensitizer includes a dry ionized substance.

19. (Original) The urine detection network of claim 1, further comprising an interface module in electrical communication with the first detector and the second detector.

20. (Original) The urine detection network of claim 19, wherein the interface module includes an energy converting module configured to predictably wirelessly interact with a monitoring subsystem based on the fluid distribution of the urine collection article.

21. (Original) The urine detection network of claim 19, wherein the interface module includes a connection node from which a characteristic of the urine detection network can be directly measured.

22. (Original) The urine detection network of claim 21, wherein a net capacitance of the urine detection network can be directly measured at the connection node.

23. (Original) The urine detection network of claim 21, wherein a net inductance of the network can be directly measured at the connection node.

24. (Original) The urine detection network of claim 21, wherein the interface module is configured for capacitive coupling with a monitoring subsystem.

25. (Original) The urine detection network of claim 1, wherein an energy exchange pattern of the urine detection network corresponds to the fluid distribution of the urine collection article.

26. (Original) The urine detection network of claim 1, wherein the first detector and the second detector are distinguishable.

27. (Original) The urine detection network of claim 26, wherein the first detector has a first capacitance when the first region is wetted, and wherein the second detector has a second capacitance, different than the first capacitance, when the second region is wetted.

28. (Original) The urine detection network of claim 1, further comprising a flexible substrate on which the first detector and second detector are arranged.

29. (Original) The urine detection network of claim 28, wherein the substrate is configured for incorporation into a diaper.

30. (Currently Amended) The urine detection network of claim 1, wherein the first detector, [[and]] the second detector, and the conductive element are constituent elements of a single conductive element.

31. (Original) The urine detection network of claim 30, wherein the single conductive element is formed from a generally planar sheet material.

32. (Original) The urine detection network of claim 30, wherein folding a portion of the single conductive element creates an LC circuit.

33. (Original) The urine detection network of claim 1, wherein the first detector and the second detector are formed by shaping a wire.

34. (Original) The urine detection network of claim 1, wherein the first detector and the second detector are formed by shaping two conductive wires that are separated by dielectric material.

35. (Original) The urine detection network of claim 1, wherein a gap between conductive elements of the urine detection network is shaped by applying pressure on a binder layer.

36. (Currently Amended) A urine detection network, comprising:
a first detection means for servicing a first region of a urine collection means; and
at least a second detection means for servicing a second region of the urine collection means;

wherein the first detection means and the second detection means are electrically coupled and collectively indicate a fluid distribution of the urine collection means.

37. (Canceled)

38. (Canceled)

39. (Canceled)

40. (Canceled)

41. (Canceled)

42. (Canceled)

43. (Canceled)

44. (Canceled)

45. (Canceled)

46. (Canceled)

47. (Canceled)

48. (Currently Amended) A diaper, comprising:

an absorbent core for containing excreted urine; and

a urine detection network including a plurality of electrically coupled detectors positioned adjacent the absorbent core, wherein a characteristic of a detector predictably changes when the detector is exposed to a predetermined threshold of the excreted urine.

49. (Original) The diaper of claim 48, further comprising an interface module operatively coupled to the plurality of detectors, wherein the interface module is configured to convey a network characteristic derived from the characteristic of each detector and signaling a urine distribution within the absorbent core.

50. (Original) The diaper of claim 48, wherein the plurality of detectors are positioned adjacent different regions of the absorbent core, so as to service different regions of the diaper.

51. (Currently Amended) A urine detection system, comprising:

a urine detection network servicing a urine collection article, the urine detection network including:

a first detector configured to service a first region of the urine collection article, and

at least a second detector electrically operatively coupled to the first detector and configured to service a second region of the urine collection article,

wherein the urine detection network has a net characteristic derived from at least a first characteristic of the first detector and a second characteristic of the second

detector, and wherein the net characteristic of the urine detection network indicates fluid distribution of the urine collection article; and

 a monitoring subsystem configured to determine the net characteristic of the urine detection network.

52. (New) The urine detection network of claim 1, wherein the fluid distribution can be derived from a single measurement of a characteristic of the network.

53. (New) The diaper of claim 49, wherein the interface module is electrically coupled to the plurality of detectors, and wherein the interface module is integral to the diaper.

54. (New) The diaper of claim 53, wherein the interface module is configured to interact wirelessly with the monitoring subsystem.

55. (New) A urine detection network, comprising:

- a first detector configured to service a first region of a urine collection article;
- a second detector configured to service a second region of the urine collection article;
- a bus electrically coupling the first detector and the second detector to one another; and
- an interface module electrically coupled to the bus and integrated into the urine collection article, wherein the interface module is configured to convey a net characteristic derived from a characteristic of each detector and signaling a fluid distribution relative to the first and second regions.